Workplace Safety Management Planning

for Small Industrial Business

A Capstone Project Report

Submitted to the Faculty

Of

Purdue School of Engineering and Technology

Indianapolis

By

Kayla Bilderback

In partial fulfillment of the requirements of the

Degree of Master of Science in Technology

Facilities Management Option

Committee Member	**Approval Signature**	**Date**
Matthew Ray, Co-Chair, Director of Facilities Management Technology		
David Goodman, Co-Chair, Ph.D. Associate Professor of Electrical and Computer Engineering Technology		
Elaine Cooney, Committee Member, Professor of Electrical and Computer Engineering Technology		

Abstract

A workplace safety management plan can help an employer to reduce the risk of employee illness or injury. Losing workers to injury or illness can cause significant disruption and cost. Due to size, oversight, or ignorance, many small businesses do not have a workplace safety management plan. Implementation of a workplace safety management plan includes a self-inspection to identify hazards and implement strategies to eliminate or mitigate their impact. With some dedication, education, and training any company can implement a workplace safety management plan.

Instigated by citations from local fire officials, a small Texas company has identified other areas of improvement needed to achieve standards compliance and ensure worker safety. This study discusses the processes taken for a small business to mitigate risk for employees, analyze their compliance with local and federal regulations, and take corrective action to avoid future citations for the employer.

Based on the four-point process as outlined by the OSHA Small Business Handbook, Tighten Manufacturing Company conducted a self-inspection, observed processes, and interviewed employees. The information gathered was used to establish a workplace safety management program that initiated a change in the cultural approach to safety and satisfies federal and state requirements to minimize hazards within the workplace.

Keywords: small business, workplace safety, OSHA standards, implementation, Texas

Introduction

Researchers noted that small organizations in the United States with 50 to 249 employees had a total recordable injury and illness incidence rate of 3.7 per 100 employees based on 2015 data from the Bureau of Labor Statistics. The rates were even higher for small organizations in industries such as manufacturing with an average injury rate of 4.5 (Bottino, Safety and the small business, 2019). For many companies prioritizing worker safety over revenue can be a challenge; however, building a safety program to help mitigate risks does not mean having to invest exorbitant resources. According to John Vasquez, a consultant with the National Safety Council, money is the biggest issue holding small business back on investing in employee safety. “They’re afraid of investing too much in safety and not enough in their own business…money can outweigh the issues with safety (Bottino, Safety and the small business, 2019).

Small businesses often overlook a Safety and Health Program as a critical element of their business plan even though they must meet the legal requirements imposed by the Occupational Safety and Health Act of 1970 and achieve in-compliance inspections from various governing agencies. Implementing a safety program can help employers avoid the indirect costs that result from workplace incidents, such as, time lost due to work stoppages, costs of training to replace injured workers, and loss or damage to materials and property (Occupational Safety and Health Administration, 2016). Addressing safety and health issues in the workplace can save an employer, regardless of its size, and help to add value to the business. An effective safety and health program can save $4 to $6 for every $1 invested. Doing it right pays off in lower

costs, increased productivity, and higher employee morale (Minority Business Development Agency, 2012).

Particularly in small business another issue with safety comes from a general unawareness of the regulations, the long-term effects of prolonged exposure to hazards, and how to correct them. Small business owners don't have the same manpower to dedicate to reviewing standards, rules and regulations. Because of complexity of the standards set by the Occupational Safety and Health Administration (OSHA) and standards enforced by local governing enforcement bodies, management must be involved in the creation of a Safety and Health Program. Management visibly leads in the design, implementation, and continuous improvement of a business' program, it is management that ensures that all employees know, understand, and support the policy.

A part of the OSHA recommended process to building a safety program is to conduct as self-assessment to identify hazards, once hazards have been identified the company can take action to mitigate risk. The OSHA Small Business Handbook endorses the creation of an 'action plan' also referred to as a workplace safety management plan (WSMP), to build a safety and health program. A WSMP fosters a proactive approach to "finding and fixing" workplace hazards before they can cause injury or illness. Rather than reacting to an incident, management and workers collaborate to identify and solve issues before they occur (Occupational Safety and Health Administration, 2016).

A plan can help bridge the gap between standard interpretation and implementation, it tells you what must be done, the logical order in which to do it, who is

responsible and where you want to be when you finish. (Occupational Safety and Health Administration, 2005). It is a continually changing document that establishes a commonly understood foundation between management and employees. It should be adapted to company improvements and changes in processes and procedures and reviewed continually to ensure its effectiveness.

Background

Located in San Antonio, Texas and established in 2010, Tighten Manufacturing Company (TMC) has exhibited an exceptional focus on the design, manufacturing, and installation of custom signs and an extensive range of printed signage. The past year TMC has seen a 67% growth in the volume of projects handled and has seen a 100% increase in the number of people that it employs. Most recently, the company has moved its operation to a 35,000 sq. ft facility. The facility is divided into three primary sections: fabrication, print, and administration.

The section dedicated to fabrication occupies 25,000 sq. ft of space; employees work on the fabrication of LED-lit channel letter signs, pylon signs, and monument signs. The fabrication section represents the most substantial proportion of potential hazards within the company. Heavy machinery operated in this area consists of gas and electric arc welders, multiple CNC machines, and forklifts. Each machine has manufacturer recommendations on appropriate personal protective equipment (PPE) to be worn while in operation. Additional operations include sawing, painting, and assembly of large and often heavy pieces that require multiple persons when handling. Approximately 42% of the staff employed by the company are primarily dedicated to working within this space.

The print section of the company occupies 5,500 sq. ft of space. Of the total staff, 21% is dedicated to working in this area. Employees produce small and large-scale prints on materials, including banner material, paper, Aluminum Composite Material (ACM), various plastics, and graphic film. The print section represents the middle ground of potential hazards posed at the company. There are five industrial printing machines within this space, two flatbed HP Scitex printers, HP Latex roll printer, Image6000 industrial laminator, and industrial sewing equipment. None of the equipment or products used within this space have manufacturer-recommended PPE.

The remaining 37% of employees work in the space with the lowest potential hazards, the administrative section. This section of the facility occupies approximately 4,500 sq. ft of space. The administrative space retains general office equipment, computers, office printers, and phones and provides storage space for finished products. There are not established safety protocols or procedures for this space and there are minimal hazards presented from the equipment or operations.

In November of 2019, the landlord for TMC's new facility was cited by the local fire department for not meeting local codes for existing structures. As a part of the walkthrough, it was identified that TMC was responsible for some of the violations. Management at TMC realized that they were not in compliance with many health and safety governing bodies and began to address violations. To help mitigate the occurrence of future desecrations, TMC decided to develop a Workplace Safety Management Program to establish universal policies and procedures.

Through the process of developing the WSMP TMC discovered that employees had experienced injuries on the job that were not reported to management and that

there were risks to employee safety that the company was previously unaware of. Prior to the discovery of injuries and hidden risks, the soul objective for TMC was to establish a plan that would prevent the company from incurring additional fines; however, it became obvious that a shift in company culture towards safety was needed. By developing a WSMP TMC systematically identified areas of non-compliance which allowed opportunities to address employee safety risk and standards violations.

As TMC began to address the cited violations and review the standards established by OSHA and the Texas Department of Insurance (TDI). It was discovered that OSHA requires companies to follow recordkeeping procedures of injuries that occur at the workplace. OSHA classifies companies with fewer than ten employees as exempt from OSH Act's injury and incident reporting as well as programmed inspections by Occupational Safety and Health Administration employees.

Prior to 2019, TMC would have been classified as exempt. However, in the past fiscal year, TMC has grown and now retains more than ten employees and is no longer exempt from maintaining injury records. Currently, there are no systems in place for employees to notify management of an injury in the workplace or for management to keep records of such an occurrence. Due to OSHA requirements and the discovery of prior workplace injuries it was important to establish reporting and recordkeeping procedures into the WSMP to meet OSHA requirements and to help TMC track and address injuries within the workplace.

Problem Statement

Currently, TMC does not have a WSMP or a process for employees to report hazards or incidents. Due to a change in status, concern for employee safety, and violations with the local fire department, TMC has decided to implement a Workplace Safety Management Plan to help mitigate future risks and establish compliance with safety standards.

Significance

Addressing safety and health issues in the workplace saves the employer money and adds value to the business. Recent estimates place the business costs in the United States associated with occupational injuries close to $170 billion-expenditures that come straight out of company profits (Occupational Safety and Health Administration, 2005). It was identified that TMC is non-compliant with many standards and regulations; rules put in place to help keep workers whole and healthy. Without taking action to mitigate the risks employees face it is inevitable that an employee could be seriously harmed. In the event of injury or inspection from either the TDI or OSHA, it is also inevitable that TMC would be fined.

In the US in 2016 safety and health offenses increased by 80% due to the implementation of new regulations. Under the new regulations, one violation could cost between $12,934 and $129,336, depending on the type of violation (Crowell, 2018). The maximum penalties that may be assessed after January 15, 2020 is $13,494 per violation for serious posting requirement violations, $134,937 per violation for repeated or willful violations, and $13,494 per day for failure to abate (Occupational Safety and Health Administration, 2020). States that operate their own Occupational Safety and

Health Plans are required to adopt maximum penalty levels that are at least as effective as Federal OSHA's. In May of 2019 a Houston based company, Custom Rubber Products LLC, was cited $530,392 in fines, the maximum penalty allowable, for four egregious willful violations for machine guarding and caught-in hazards. Companies are given fifteen days from receipt of the citations to comply, contest, or request a conference. Regardless of the outcome, once a citation is issued a company is obligated to expend money to address the issue, money that small business needs to keep the company viable.

In the 2016-2017 reporting year, the average cost of a worker’s compensation claim in the United States was $40,051; such a claim could have unrecoverable consequences for a small business (National Safety Council, 2017). Under the Texas Workers' Compensation system, the employer is under no legal obligation to cover the medical charges incurred by an injured worker (Texas Medical Assosciation, 2015). For employers who opt out, normal personal injury law applies and employees who are hurt retain the right to sue their employer when an accident occurs.

Due to the size of the company and the state of Texas not requiring employers to carry worker’s compensation coverage, TMC had decided not to opt to carry coverage in the case of a worker’s compensation claim. A review of personal injury damages cited by one Texas law firm were awarded damages ranging from $24,000 to $6.9 million (The Queenan Law Firm, P.C., 2017). Costs from a worker’s compensation claim, fines from regulators, or damages paid in a lawsuit, would be financially detrimental and would tarnish the reputation that the company has built. Although accidents are not

entirely unavoidable, there are actions that an employer can take to help mitigate the impact and the likelihood of an accident.

Literature Review

Safety management is often considered to be a non-essential function to the business. The theory of quality management in association with safety management was discussed by Bruce Ladewski and Ahmed Al-Bayati in their research findings. Their study offers evidence that the organizational functions of safety and quality can follow the same model to expand the focus of the management of quality to embrace the management of safety (Ladewski & Al-Bayati, 2019). A workplace safety plan serves as both a training guide, a reference manual, and a contract acknowledged by all [employees]. It is predicated on the underlying principle that occupational diseases and injuries are preventable and that good planning, careful oversight, training, participant responsibility, and evaluation and feedback combine to ensure that work is conducted safely (Gochfeld, et al., 2006).

According to OSHA, a plan serves as a safety management system because dangers can exist as a matter of routine rather than by accident, such as may be the case in a workplace where employees are exposed to toxic chemicals (Uhlig , 2008). There are various causes of accidents such as stress and fatigue, unsafe acts, machinery and tools, workplace design, and training procedures. Accidents in the workplace are one of the most costly issues that occur in the organization, especially for companies or industries that, in their daily operations, use machinery at the workplace (Mansor, Zakaria, & Abdullah, 2011).

Official data from the United States Department of Labor shows that substantial penalties for OSHA breaches are on the rise. In 2017, 866 cases were recorded where the offender was charged $40,000 or more for critical violations. Most frequently cited OSHA violations in 2017 were due to lack of fall protection in the construction industry, most fatal occupational injuries were related to transportation incidents, followed by falls, slips or trips (Crowell, 2018). Looking at the consequences of insufficient safety management in comparison to the returns of a healthy working environment, one would expect companies to value health and safety highly. However, research shows that 17% to 25% of small business employees have never received workplace safety training (HR Daily Advisor, 2017).

Governmental initiatives are trying to make compliance more attractive to companies by issuing higher penalties and carrying out more inspections. It is now time for the business owner to catch up with these efforts and prioritize a sustainable business strategy over quick money. The goal should not be to cut costs but to prevent accidents effectively (Tuite, 2018).

OSHA continues to ramp up its enforcement efforts for companies ignoring safety, conducting nearly 41,000 inspections resulting in over 96,000 safety and health violations in 2010, which is a 15% increase over the previous 5-year period (OSHA, 2010). Thaba and Mbohwa discussed the impact on the development and sustainability of small and medium businesses that lack occupational health and safety programs (Thaba & Mbohwa, 2016). Most of the small businesses do not apply all the safety health policies and regulations; this seems to be through negligence and lack of resources (Stephens, Hickling, Gaskell, & Burton, 2004).

To help facilitate safety compliance, OSHA issued a handbook explicitly directed towards small business owners to help achieve an in-compliance status before an OSHA inspection (OSHA, 2005). The Small Business Handbook provides a rough outline of how a small business owner could go about including a safety protection plan into their business, citing that “This approach usually does not involve high costs…safety and health can be integrated into other business functions with modest effort.”

Many researchers claim that small enterprises have problems with the working environment, claiming that the risk is higher, and the ability to control risk is lower. There is strong evidence of high accident risks in small enterprises (Hasle & Limborg, 2006). Included in the list of problems that small businesses face in terms of safety is the finding required for equipment and programs. “For many small-business leaders, putting worker safety above the bottom line can be challenging” (Bottino, Safety and the small business, 2019). Small companies, even those with good accident histories, can be much more vulnerable to the costs of safety program deficiencies than large ones. Worker’s compensation insurance covers only a fraction of the total cost of an accident (Pieron, 2010). With almost any accident, there will be a loss of production time, and depending on the severity of the incident, this could be detrimental to a small business. Pieron points out that aside from the immediate financial consequences of an accident, a business can also be affected by a negative impact on the business reputation and the confidence that customers have in the business.

Any company whose operations expose its employees to workplace health or safety hazards must take steps to mitigate those hazards by developing and managing

a workplace safety program (Carr, 2015). In January 2015, OSHA updated their list of industries that are required to maintain records for injuries in the workplace. Although many standards were modified, an exemption remained that for any employer with ten or fewer employees, regardless of the industry classification, they were exempt from maintaining injury records (Texas Department of Insurance, 2019).

Purpose

It is the intent of this project to complete all necessary steps in the creation and implementation of a four-point workplace safety management program following the OSHA Small Business Handbook and Self-Inspection tools. The OSHA recommended four-point program includes: management commitment and employee involvement, worksite analysis, hazard prevention and control, and training for employees and managers; this will be the foundational format for developing a workplace safety management program. The WSMP will be implemented and finalized by August 1, 2020, the effective date of the new insurance policy as it marks the change in employee status for TMC.

Definitions

Channel Letter --- custom-made metal or plastic letters commonly used in exterior signage on public and commercial buildings, and often internally illuminated.

CIH---A Certified Industrial Hygienist is an individual who has met the minimum requirements for education and experience, and through examination, is dedicated to the science of protecting and enhancing the health and safety of people at work and in their communities. Health and safety hazards cover a wide range of chemical, physical, biological, and ergonomic stressors.

CNC Machine--- automated control of machining tools such as drills, boring tools, and lathes utilizing a computer. A CNC machine processes a piece of material to meet specifications by following a coded, programmed instruction and without a manual operator.

dBA--- A-weighted decibels are an expression of the relative loudness of sounds in air as perceived by the human ear.

Monument Sign--- a sign connected to the ground that has no identifiable space for the full width of the sign between the bottom of the sign and the ground.

NSC--- National Safety Council (NSC) is a nonprofit, non-governmental public service organization created for the purpose of protecting life and promoting the health of the US people.

OSHA--- The Occupational Safety and Health Administration (OSHA) is an agency of the US government under the Department of Labor with the responsibility of ensuring safety at work and a healthful work environment.

OSHCON--- The Occupational Safety and Health Consultation (OSHCON) program is a free and confidential service available to private Texas employers through the Texas Department of Insurance, Division of Workers' Compensation, established to help identify and eliminate occupational hazards.

PPE--- Personal protective equipment (PPE) refers to protective clothing, helmets, gloves, face shields, goggles, facemasks, and/or respirators or other equipment designed to protect the wearer from injury or illness.

Pylon Sign--- a pylon sign means a sign supported on one or more piers, not attached to a building or other structure, and includes a detached sign framework supported on one or more piers to which sign infill may be added.

Safety Champion--- an individual within an organization who has the power to influence health and safety policies, procedures, and practices, and who uses that influence to help create a culture of safety.

TDI--- the Texas Department of Insurance (TDI) is the regulator of all Texas-based insurance companies and insurance companies that conduct business or commerce in the State of Texas. The state agency in Texas with the highest authority in the area of workplace safety.

TMC--- Tighten Management Company (TMC), also referred to as 'the company' is a nineteen-person sign manufacturing company located in San Antonio, Texas.

WSMP--- Workplace Safety Management Plan (WSMP) is a plan that outlines the safety measures and procedures implemented in the workplace.

Assumptions

The project assumed the following conditions:

1. All management staff has participated in discussions about implementing a WSMP and are in cooperation with any assessments conducted.
2. The Safety Champion has been permitted to speak to all employees about established workplace safety practices and perceived hazards.
3. All employees will be interviewed irrespective of their current length of employment with TMC or their working section.

4. If through the course of assessment, a hazard is identified as an immediate threat, it will be addressed with management and staff for corrective action.
5. Due to changes in the recordkeeping requirements, there will be no historical-comparative injury data.

Delimitations

Based on the current proposed timeline, the development of the four-point program will be completed without issue. However, due to limitations on scheduling, course offerings from outside entities, and social distancing restrictions, it is not expected that all staff will be sufficiently trained by the August 1, 2020, deadline. The goal will be to ensure that management staff and persons working within the highest hazard working section will be the priority for training programs. Staff will be registered for any courses that are identified as required for continued employment once social distancing restrictions have been lifted by the Center for Disease Control and course offerings resume.

Methodology

In order to mitigate potential injuries, fines, or loss of life, TMC appointed an individual to be the “Safety Champion” that was responsible for conducting the steps as outlined by the OSHA four-point program. With established commitment from management and with consideration of training limitations, the primary focus was on employee involvement, worksite analysis, and hazard prevention and control.

Before conducting a worksite analysis, the Safety Champion identified the category in which TMC would be inspected as and review regulations established for

that category. During the worksite analysis, the Safety Champion conducted interviews with staff to identify additional hazards and address concerns. Throughout the process, the Safety Champion consulted the OSHA handbook for Small Business as well as the Texas Department of Insurance. The self-inspection consisted of a comprehensive 560+ point safety and health survey of the entire facility to identify existing and potential hazards. This included checking on the use of any hazardous materials, observing employee work habits/practices, and employee interviews.

The scope of the inspection consisted of the following fifteen overarching areas that are then broken down into specific area checkpoints:

1. Machinery
2. Hand and Power Tools
3. Chemicals
4. Fire Prevention
5. PPE
6. Maintenance
7. Transportation
8. Processing, Receiving, Shipping, and Storage
9. Building and Grounds Conditions
10. Housekeeping
11. Lighting
12. Electricity
13. Heating and Ventilation
14. Personnel/Processes
15. First-Aid Supplies

Within each area of inspection, current processes were observed to include the current state and maintenance of equipment. Once hazards and areas of low performance were identified, the Safety Champion began working on the top five highest priority items. These items were identified by dividing the number of checkpoints in a category that were compliant by the total number of checkpoints in the category to get a “compliance percentage”. The categories with the lowest compliance percentage were identified as the highest priority items. The goal was to eliminate or minimize the

hazard by limiting exposure, proposing the use of alternative materials, prescribing PPE to protect employees against the identified hazard, or execute process changes.

It was imperative to establish an orientation and training program to ensure that staff is familiar with the workplace hazards, the corresponding personal protective equipment (PPE), and appropriate use. Through coordination with OSHCON, the Safety Champion implemented initial on-site training programs addressing non-specialized hazards via online training material and DVDs.

The safety plan includes reporting procedures for accidents that occur within the workplace or on a worksite. The Safety Champion worked with Administrative staff to ensure a system is established that is compliant with OSHA standards for recordkeeping, reporting, and posting.

Scope

Preliminary work included establishing a working relationship with an OSHCON representative to assist in the identification of hazards and clarify standards. Due to the potential operational disruption of observation of processes, an effort was made to be as non-disruptive as possible. Discussions with company owners, management, and staff took place before interviews began in order to minimize repetitive questions and to ensure staff that there will be no repercussions for findings or information shared with the Safety Champion.

Results

After appointing a Safety Champion and conducting the self-assessment, the top and bottom five areas were identified and further evaluated. Based on the self-

assessment results, each category was assessed by using the number of checkpoints passed compared to the overall number of checkpoints in the category to establish a percentage. Using the percentages, the Safety Champion determined the highest and lowest performing areas. TMC performed the best in the areas of abrasive wheel equipment grinders, hand tools and equipment, compressors/air receivers, electrical, and compressed gas cylinders. In each of these areas, TMC received a self-

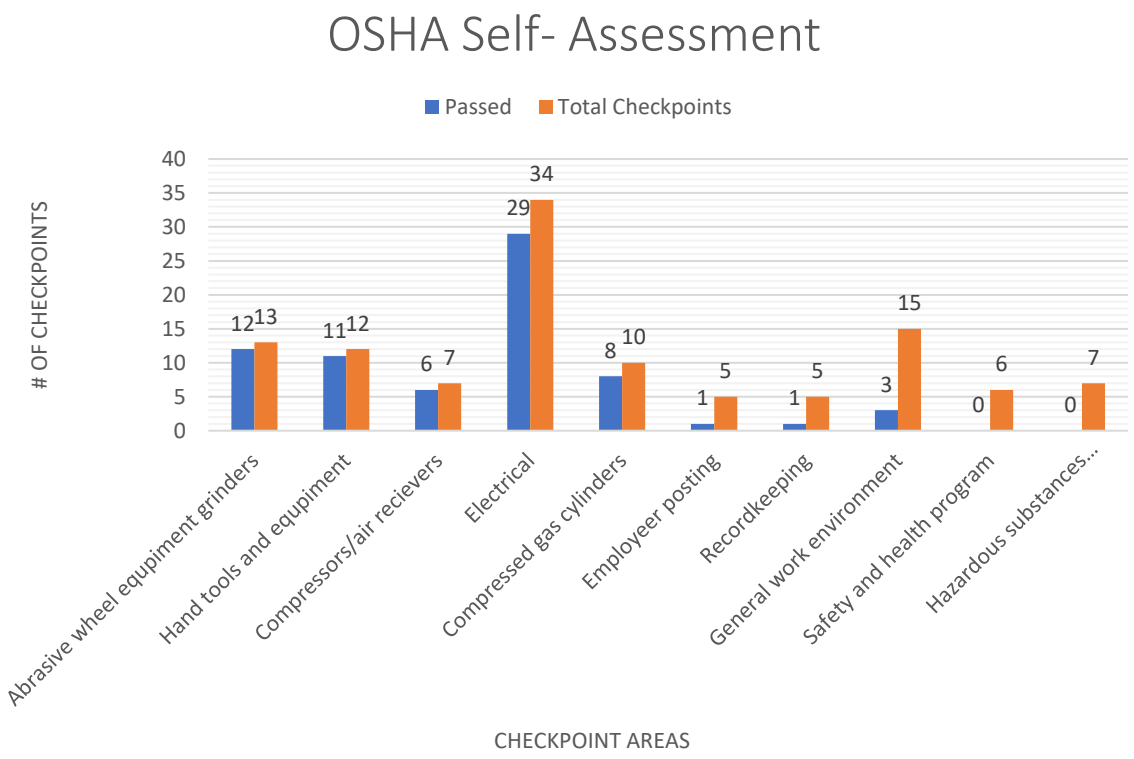


Figure 1- Top Results of OSHA Self-Assessment

assessment compliance of 80% or higher. The categories where TMC did the poorest established the areas of focus for this study; they were safety and health program, hazardous substances communication, employer posting, record-keeping, general work environment, and noise (See Figure 1).

The catalyst for the study was TMC's awareness of non-compliance with a Safety and Health Program as well as for recordkeeping; both areas were 100% non-compliant based on the self-assessment. The self-assessment identified that TMC is also non-compliant in communicating potential hazards, ensuring appropriate PPE is utilized during operations, and posting safety notifications. The Safety Champion worked with the OSHCON representative to ensure all areas were appropriately addressed during the development of the WSMP (See Appendix A) and a hazardous communication plan (See Appendix B).

The Safety Champion consulted with a Certified Industrial Hygienist (CIH) to address health and safety concerns for noise. TMC has provided machine workers with 3M X54 earmuffs with a noise reduction rating of 31 decibels as provided hearing protection but felt it was necessary to identify if workers were being exposed to noise above OSHA's Occupational Noise standard 29 CFR 1910.95. Section (b)(2) of this standard outline noise exposure for an 8-hour period should not exceed 85 dBA. Based on sampling from the working area, it was determined that the average exposure for the CNC machining area was 96dBA, which is over the recommended limit; however, with the provided earmuffs, the CIH advised that TMC was taking the appropriate precautions to avoid hearing damage.

After consulting with the CIH, the Safety Champion consulted with OSHCON to begin developing a WSMP. Important topics to cover in the general plan were management's commitment and involvement in developing a safe working environment, establishing procedures, and hazardous materials communication. A walkthrough with the OSHCON representative helped to address areas within the facility where TMC

lacked proper postings of hazards and protocols. As a result, areas were identified where drop-off materials were likely to collect and impede on slip/trip safety. Much of the work done at TMC involves cutting materials; the drop off is often left to fall on the floor until work is completed.

In identifying the safety hazard of allowing drop off materials to collect within the workspace of employees, a new procedure was immediately implemented requiring that employees promptly dispose of drop off in designated receptacles and not allow for larger pieces to collect. Designated receptacles were relocated to make it easier for employees to dispose of drop off without it adversely impacting the productivity of their task.

Employee interviews proved to be immensely informative to help address health issues within the workplace. It was revealed that employees had not been provided with adequate waste disposal opportunities. Employees were using the drop off bins to dispose of food waste, which could attract mold and rodents into the facility. Employees also identified that the wasted ink from printing production was being collected in hidden five-gallon buckets in the storage area. Employees were uncertain of where to dispose of the unusable ink and so they were dumping liquid waste into these containers.

The Safety Champion began investigating proper disposal of the ink and mixed paint that had been collected. During consultations with multiple third-party vendors, it was reiterated the need for SDS sheets to be readily available. As it was uncertain as to the exact contents of the containers, the disposal costs for the buckets were twice the price as it would have been due to the extra precautions and testing needed to ensure safe disposal. To mitigate further disposal issues, TMC contracted for two stations to be

installed, one for ink and one for paint from spraying operations. Each receptacle is located in a designated area and will be hauled offsite for disposal once a quarter.

Before implementing the changes based on the self-assessment, TMC had received a self-assessment compliance of 57%. Out of 562 checkpoints, TMC passed

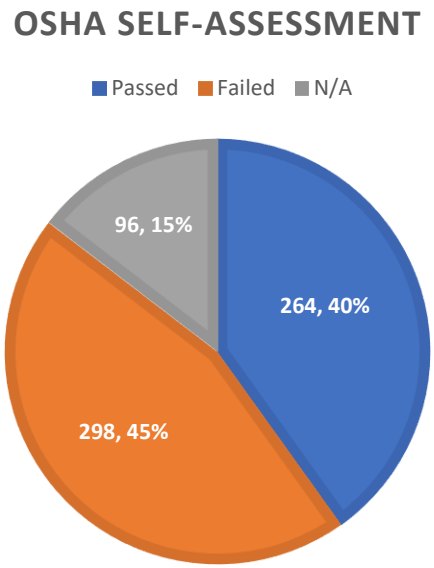


Figure 2- OSHA Self-Assessment compliance

264, 96 did not apply to TMC operations (see Figure 2). Once the proposed changes were implemented, the Safety Champion reviewed the top five areas of focus to re-assess. Although all efforts were taken to reach a passing status TMC reached a higher score of 65% with the new assessment, which is still failing.

After further analysis, it was identified that the areas of most considerable non-compliance were not the same areas of biggest potential improvement. TMC used a compliance percentage criterion to determine what areas of the self-assessment to focus on but it failed to take into consideration the weight of each category. The top five areas of focus would have been different based on a weighted scale.

If the criteria were adjusted to consider their weight, TMC would have identified which areas had the greatest potential for improvement. The top five areas of focus

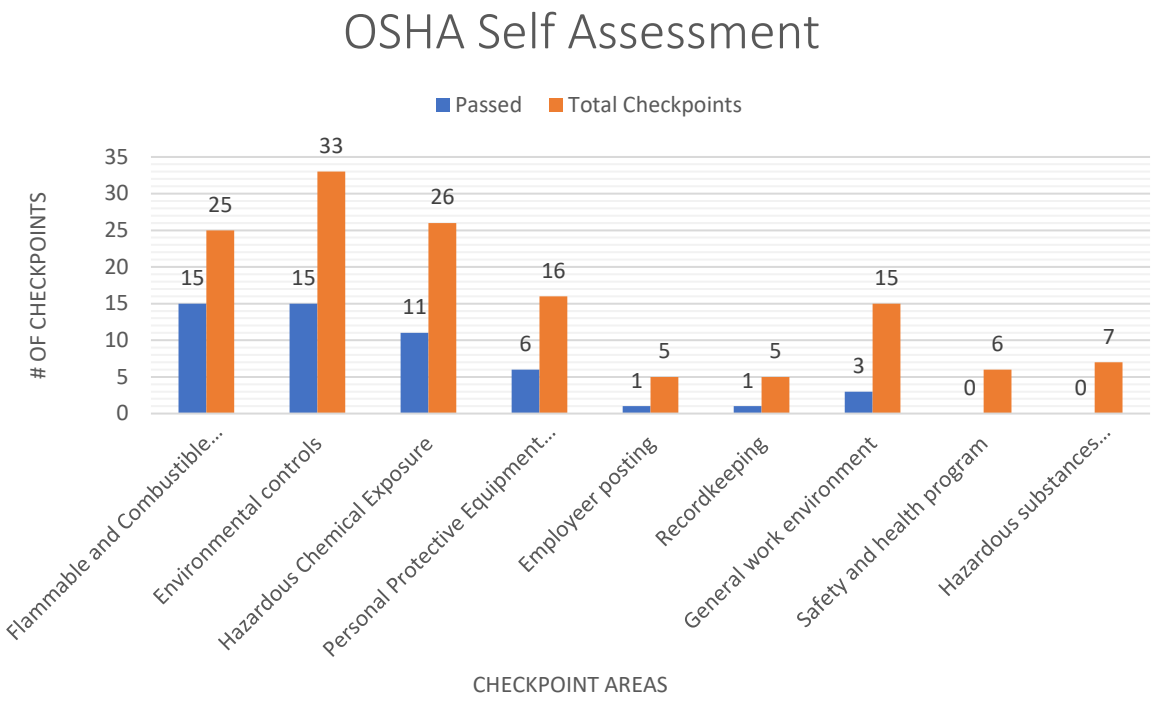


Figure 3- OSHA Self-Assessment comparison of least compliant areas

would have been environmental controls, hazardous chemical exposure, general work environment, personal protective equipment and clothing, and flammable and combustible materials. The revised top five areas had a potential checkpoint gain of 65 points compared to the 40 points of the previously identified points. With a revised approach, only the general work environment was on both the top 5 areas for improvement (See Figure 3).

Conclusion

Conducting a self-assessment and creating a WSMP as well as a hazard communication plan helped to engage management in active risk mitigation. In a small

business, it is overlooked as a business function because it does not add to ‘the bottom line’; however, the lack of acknowledgment and action opens a small business for potential critical losses. The process of risk mitigation is ongoing and can be time-intensive to establish, it requires a dedicated individual or team to provide critical analysis of the company’s current performance removed from judgment.

Choosing what areas to dedicate focus on should not be a simple equation towards compliance. As TMC discovered, the areas that have the most OSHA compliance deficiencies are not always overlapping with the area’s potential improvement towards compliance. Further consideration should be taken to ensure the focus is on employee safety, identifying the areas where there is the most potential to mitigate risk. Although TMC was non-compliant in their recordkeeping practices, it is not an area that will impact the safety of its employees. Being that TMC was not anticipating an approaching OSHA inspection, the focus could have been directed towards process controls to mitigate risk and less on administrative measures.

The next steps for TMC will be to focus on addressing criteria that affect employee safety by assessing the working environment and work towards reorganizing the layout of the facility. TMC will implement the primary concepts of LEAN methodology to progress with the safety objectives outlined in the WSMP and to establish compliance with OSHA and local safety regulations. TMC will work with employees to identify opportunities in the process workflow and create a plan to improve the identified issues. Once a reorganization plan is created TMC will implement the changes and follow up with a review of how the changes are working to improve workflow and safety issues.

There are seven mudas (wastes) associated with LEAN methodology: overproduction, correction, inventory, motion, conveyance, over-processing, and waiting. Motion, conveyance, and inventory are the first of the wastes that will be addressed as they represent a large portion of deficiencies outlined in the self-assessment with the working environment. The working environment was on both the weighted and unweighted list of deficiencies and is an important aspect of creating a safer working environment. By addressing issues with the layout of the facility TMC will work to eliminate wasted time and movement of employee processes and materials.

The goal of reorganization of layout is to reduce the amount of time that employees spend on unnecessary movement of equipment, materials, and personnel. Additionally, TMC has established the goal of creating a dedicated area for spraying operations. Spraying operations received a 63% score on initial self-assessment and was just outside of the bottom 5 performing categories. However, the concern with spraying operations is for employee health. Currently there is no space dedicated to spraying operations and there is no established ventilation for this process. Persons performing spraying do where respirators but there are no safety measures to protect other employees in the neighboring working areas. Reorganizing the space to create a dedicated, properly ventilated area, will help ensure safety protocols can be implemented to protect all employees.

Better inventory control should be achieved by establishing appropriate storage for materials waiting to be process and materials after processing. Ineffective storage has caused material overflow into walkways and working spaces which has presented a safety hazard and is one of the items that was cited by the fire department. Storing

materials in a space that is out of walkways and easy to access will help to mitigate current trip hazards and if properly implemented should help save time on employee conveyance of materials. Incorporating employees into the process of improvement in safety and workplace practices is one way that TMC plans to educate employees on the potential hazards of each process and communicate how to mitigate each hazard.

Employee training and communication is by far the thread that underlines most of the identified deficiencies in TMC. The areas where TMC performed the best were areas where employees were licensed professionals such as master sign builders, certified welders, and licensed electricians. These employees had been formally trained and tested on appropriate materials handling and procedures; training which carried over into their work practices. The areas where TMC was most deficient were areas that employees had little to no training or communication. Before the study, professional training, communication of potential hazards within the workplace and knowledge of to mitigate the risks were nonexistent.

In establishing a new culture of safety within a workplace that has historically been void of safety practices, employee involvement is paramount. Conducting employee interviews revealed that most employees were aware of deficiencies but were either unaware of a solution or fearful of repercussions. Opening a space where employees could comfortably voice concerns and suggestions empowered employees to engage in creating a safety program. Ushering in a safety centered culture established safe working practices as behavior to be cultivated by all employees and was not just a management function. Employees must provide each other corrective feedback when risky behavior is identified, especially since shortcuts are often

perceived to be faster and unproblematic, and because supervisors are not always present. This corrective feedback also sets the norm that safe behavior is expected (Williams, 2008). Once it is integrated into the working culture of a company and instituted as a part of the working process, minimal effort would be required to maintain a safe working environment.

Mitigating risk in the workplace and establishing a safety culture does not have to mean a new line item on the expense report for a small business, there are many free resources available to help train employees on safety issues. OSHA requires employers to provide training to workers who face hazards on the job and have created training materials and provide training at authorized educations centers nationwide. OSHCON provides training materials and DVDs that can be loaned out for use on a wide variety of topics. Aside from the many free safety training resources available, there are also paid classes through OSHA and other safety organizations. Professional membership groups routinely provide workshops on job-specific hazards.

Changing established cultures and procedures takes time. There is a significant time investment needed to review standards, consult with third parties, and assess current practices. Once areas for improvement have been identified, and corrective action is taken, employee buy-in is the most central aspect of mitigating risk. Prolonged change happens from the top down. Management needs to be fully invested in correcting old, unsafe behaviors and training employees on better practices.

References

Behm, M., Veltri, A., & Kleinsorge, I. K. (2004). The Cost of Safety. *Professional Safety*, 22-29.

Bottino, B. (2019, September 22). *Safety and the small business.* Retrieved from Safety + Health: https://www.safetyandhealthmagazine.com/articles/18899-safety-and-the-small-business

Bottino, B. (2019, September 22). *Safety and the small business*. Retrieved from National Safety Council: https://www.safetyandhealthmagazine.com/articles/18899-safety-and-the-small-business

Carr, R. (2015). *How To Build A Safety Program From Scratch.* Austin: Berg Compliance Solution.

Crowell, D. (2018, May 29). *US Health & Safety: Cost of Compliance vs. A Violation*. Retrieved from Commercial Construction and Renovation: https://www.ccr-mag.com/us-health-safety-cost-of-compliance-vs-a-violation/

Gochfeld, M., Volz, C. D., Burger, J., Jewett, S., Powers, C. W., & Friedlander, B. (2006). Developing a Health and Safety Plan for Hazardous Field Work in Remote Areas. *Journal of Occupational and Environmental Hygiene*, 671-683.

Hasle, P., & Limborg, H. (2006). A Review of the Literature on Preventive Occupational Health and Safety Activities in Small Enterpises. *Industrial Health*, 6-12.

HR Daily Advisor. (2017, October 27). *Safety Training Should Address Importance of Promoting Safe Work Environment*. Retrieved from HR Daily Advisor: https://hrdailyadvisor.blr.com/2017/10/27/safety-training-address-importance-promoting-safe-work-environment/

Ladewski, B., & Al-Bayati, A. J. (2019). Quality and safety management practices: The theory of quality management approach. *Journal of Safety Research*, 193-200.

Liberty Mutual Insurance. (2020). *2019 Workplace Safety Index: The Top 10 Causes of Disabling Injuries at Work*. Retrieved from Liberty Mutual Insurance: https://viewpoint.libertymutualgroup.com/article/top-10-causes-disabling-injuries-at-work-2019/

Mansor, N., Zakaria, N., & Abdullah, Z. (2011). Understanding common dimensions of workplace accident in Malaysia. *Business and Managmnet Review*, 22-23.

Minority Business Development Agency. (2012, May). *Establishing a Safe and Healthful Working Environment*. Retrieved from Minority Business Development Agency: www.mbda.gov/news/blog/2012/05/establishing-safe-and-healthful-working-environment

National Safety Council. (2013). *Injury Facts.* Itasca, IL: National Safety Council.

National Safety Council. (2017). *Workers' Compensation Costs*. Retrieved from Injury Facts: https://injuryfacts.nsc.org/work/costs/workers-compensation-costs/

National Safety Council. (2020). *Workplace Injuries*. Retrieved from National Safety Council: https://www.nsc.org/work-safety/tools-resources/infographics/workplace-injuries

Occupational Safety and Health Administration. (2005). *Small Business Handbook.* Washington, DC: U.S. Department of Labor.

Occupational Safety and Health Administration. (2016). *Recommended Pratices for Safety and Health Programs.* Retrieved from OSHA: https://www.osha.gov/Publications/OSHA3885.pdf

Occupational Safety and Health Administration. (2020, January). *OSHA Penalties*. Retrieved from OSHA Enforcement: https://www.osha.gov/penalties

OSHA. (2005). *Small Business Handbook.* Occupational Safety and Health Administration .

OSHA. (2010). *OSHA enforcement: committed to safe and Healthful Workplaces.* Retrieved from OSHA: www.osha.gov/dep/2010_ enforcement_summary.html.

Pieron, H. (2010, April 1). *Why Cost-Cutting Safety May Cost You More.* Retrieved from Occupational Health & Safety: https://ohsonline.com/Articles/2010/04/01/Why-Cost-Cutting-Safety-May-Cost-You-More.aspx?Page=1

Stephens, P., Hickling, N., Gaskell, L., & Burton, M. (2004). *Occupational health and SMEs: .* Westbrook: Vectra Group Limited.

Texas Department of Insurance. (2019, September 9). *Changes to OSHA's Recordkeeping Rules*. Retrieved from Texas Department of Insurance: https://www.tdi.texas.gov/wc/safety/osharulechngs.html

Texas Medical Assosciation. (2015, September 09). *The Workers' Compensation System in Texas*. Retrieved from Texas Medical Assosciation: https://www.texmed.org/Template.aspx?id=2339

Thaba, S., & Mbohwa, C. (2016). The Impact of Lack in Occupational Health and Safety Implementation in Small Businesses . *2016 International Conference on Industrial Engineering and Operations Management* . Kuala Lumpur, Malaysia : Department of Quality and Operations Management, University of Johannesburg .

The Queenan Law Firm, P.C. (2017, November 7). *What is the Average Personal Injury Settlement in Texas?* Retrieved from The Queenan Law Firm, P.C.: https://www.queenanlaw.com/average-personal-injury-settlement-texas/

Tuite, B. (2018, May 18). *US Health & Safety – Comparing the Cost of Compliance vs. A Violation.* Retrieved from Arnite Health and Safety: https://www.arinite.co.uk/us-health-safety-comparing-cost-compliance-vs-violation

Uhlig , D. (2008). *OSHA Regulations on Written Safety Plans for 10 Employees*. Retrieved from https://smallbusiness.chron.com/osha-regulations-written-safety-plans-10-employees-18405.html

Williams, J. H. (2008). Employee Engagement Improving Participation In Safety. *American Society of Safety Engineers*, 40-46.

TIGHTEN MANUFACTURING COMPANY

WORKPLACE SAFETY MANAGEMENT PLAN

Effective 1 August 2020

Table of Contents

Section 1: Management Commitment to Safety and Health

Tighten Manufacturing Company (TMC) strives to have the safest possible place of employment for our employees. The enclosed Workplace Safety Management Program (WSMP) was created to serve as the basis for an integrated Workplace Safety Program that establishes a philosophy that workplace illnesses and injuries are preventable.

The goals for our Safety Program are to:

- Develop, implement, and maintain a safe workplace for our employees consistent with all applicable state and federal regulations.
- Select and implement proper controls for all hazards identified.
- Consistently improve the safety program to minimize incidents, therefore ensuring our employees' long-term safety and wellness.
- Train all employees on how to identify and control hazards
- Have zero incidents and celebrate an excellent safety record.

The person responsible for implementing and monitoring the Safety Program at this location is [redacted]

A copy of this Safety Program is located in the employee breakroom and is available on request through employees' supervisors.

CEO/President/Safety Director: [redacted]

Date: _____

Section 2: Roles and Responsibilities

Employer Responsibilities

Under the Occupational Safety and Health Act (OSH Act), it is the employer's responsibility to provide employees with a workplace free recognized hazards that may cause illness or serious physical harm and to comply with standards, rules, and regulations issued under the OSH Act.

To demonstrate managements' dedication to workplace safety, the Safety Champion and management will:

- Conduct safety meetings monthly.
- Set an example by following safety rules and regulations.
- Provide employees with training on specific safety issues and equipment.
- Conduct regular inspections.
- Follow up after safety incidents with thorough accident investigations, correcting problems, and post-accident employee training.
- Recognize and reward employees for safety and health suggestions and practices.

TMC will provide the necessary medical examinations for employees as required by OSHA standards to maintain a healthy workforce. All testing results will be kept on file and maintained in accordance with federal rules and regulations relating to safety and privacy.

Employee Responsibilities

As much as it is TMC's responsibility to provide a safe work environment for everyone, each employee plays a vital role in the success of the safety program. TMC asks employees to accept this essential responsibility and commit to working in the safest manner possible to ensure their health and wellness for the future. TMC encourages all employees to communicate safety concerns and offer suggestions to improve safety conditions without the fear of reprisal.

Employee rights are protected under the OSH Act and the law's anti-retaliation protections.

All employees are responsible for complying with all OSHA standards (federal and state) as well as with the company's safety and health rules, including the following:

- Handling equipment and work processes in accordance with established procedures and documented protocols.
- Reporting any unsafe conditions, deficiencies in equipment, or injuries (no matter how minor) to management immediately.
- Complying with all management instructions for safe conduct.
- Attending accident prevention and safety training and instruction, including practice drills.
- Obtaining permission and training before operating machinery or equipment unless part of the employee's regular duties. **Employees must be trained/certified before using any powered industrial trucks, such as forklifts.**
- Following the company's safe working rules and policies at all times.
- Wearing necessary safety and protective equipment at all times in specified work locations.

Employee Injury and Illness Reporting

All injuries should be reported promptly to the Supervisor, Manager, or Safety Champion so that arrangements can be made for medical and/or first-aid treatment.

First-aid materials are located in the front office, employee breakroom, and all working areas as well as in work vehicles.

Emergency, fire, ambulance, rescue squad, and doctors' telephone numbers are located in working areas, and front office and fire extinguishers are located at critical points throughout the facility and are noted on emergency exit maps. See your location evacuation maps for more details.

In case of a fire, accident, or other emergency, employees should gather at this location: **Hardgrave Park** located across the street. See your location evacuation maps for more details.

Report any hazards immediately to your supervisor or manager.

Manager/Supervisor Name: [redacted]

Phone Number: [redacted]

Email: [redacted]

After hours/weekends: A supervisor must be present on all jobs occurring after hours or on weekends. In case of an emergency, contact your supervisor.

OSHA Inspections: Employee Responsibilities

It is our policy to comply fully and cooperate with any OSHA location inspection. At the time of inspection, the Safety Champion will act as the designated safety representative and will communicate and work directly with the OSHA inspectors. Immediately contact safety or executive management if OSHA inspectors arrive at the work location.

TMC's Safety Champion responsible for handling location inspections is:

Name: [redacted]

Phone Number: [redacted]

Email: [redacted]

If the Safety Champion is not available, contact your manager or human resources department.

Phone Number: [redacted]

Section 3: Incident Investigation

It is company policy to investigate all injuries and illnesses to understand why the incident occurred and how it can be prevented from recurring. It will also serve to continuously improve our processes/procedures to create a safer workplace for all associates.

1. **In an emergency, remember to dial 911 immediately.**

2. The **immediate supervisor or manager** should report any injury or illness immediately (or when safe to do so) and complete the appropriate paperwork for the safety team follow up human resources actions. All injuries and illnesses should be reported, no matter how large or small.

3. Use the company Incident Reporting Form (See Appendix A). Document the injury/illness completely while doing a thorough root cause analysis of the incident so that corrective action can be determined to prevent future incidents.

4. Supervisors will conduct an Incident Investigation using the Supervisors Incident Investigation Form (Appendix B) and review the incident investigation report with the Safety Champion and/or Management to determine appropriate corrective action, training, or other changes in the safety program in that work area. Any corrective actions should be communicated, with responsibility for follow up tasks assigned to the appropriate person(s), and adjustments made to the job hazard analysis if needed.

5. Part of the safety corrections may include employee coaching and counseling to correct unsafe behaviors, prevent injuries, and improve safety. Follow the company procedure for corrective action and focus on changing behavior instead of punishment. However, in some instances, after consultation with human resources and legal counsel, egregious or willfully negligent behavior may be cause for immediate disciplinary action up to and including termination of employment.

Injury and Illness Reporting

In the case of serious injuries or fatalities, there are time-sensitive reporting requirements. Any serious injury should be reported as soon as possible to comply with OSHA's reporting rules, or the company may face severe penalties. TMC's Safety Champion or Human Resources Manager will handle OSHA reporting; however, if needed to meet the OSHA deadlines, you can call the OSHA reporting line at 1-800-321-6742.

- For work-related fatalities, report within 8 hours of knowledge
- For work-related inpatient hospitalizations, all amputations, and all losses of an eye, report within 24 hours of knowledge
- Amputations within 24 hours of knowledge
- Losses of an eye within 24 hours of knowledge

Section 4: Hazard Identification and Assessment

Part of our ongoing commitment to the Workplace Safety Management Program includes hazard identification and assessment. It is our responsibility under the OSHA general duty clause to assess any potential hazards our employees may encounter through the ordinary course of their workdays.

TMC follows the federal OSHA guidelines (listed below) for evaluating potential hazards in the workplace and will review the information as needed to prioritize action items for completion.

- Equipment and machinery operating manuals.
- Safety data sheets (SDS) provided by chemical manufacturers.
- Self-assessment reports and inspection reports from government agencies and consultants. Complete Self-assessment will be conducted annually in July.
- Records of previous injuries and illnesses, such as OSHA 300 and 301 logs and reports of incident investigations.
- Patterns/trends of frequently occurring injuries and illnesses.
- Existing safety and health programs, such as lockout/tag out, confined spaces, process safety management, personal protective equipment, and others. See the list of programs below.
- Input from workers, including surveys or minutes from safety and health committee meetings.

- Driving safety for non-commercial drivers.
- Electrical safety 29 CFR 1910.305 and Electrical systems design 29 CFR 1910.303
- Emergency action planning.
- Fall protection 29 CFR 1926.501
- Fire safety.
- Fleet safety policy – regulated.
- Forklift/powered industrial trucks 29 CFR 1910.178
- Hand tool safety.
- Hazard communication29 CFR 1910.1200
- Hot work.
- Ladder safety 29 CFR 1926.1053
- Machine guarding 29 CFR 1910.212.
- Medical services (including first aid/CPR/AED).
- Noise and hearing conservation.
- Personal protective equipment (PPE).
- Respiratory protection program 29 CFR 1910.134
- Safety committee program.
- Spill prevention and response.
- Substance abuse policy.

Job Hazard Analysis

A job hazard analysis will be conducted annually in July, and as needed, the analysis will outline the steps and tasks of a job and any controls that are in place to avoid the potential hazard(s). They may also be used to build, update, and maintain the safety training and education program. The TMC Safety Champion or Supervisor will use the Job Hazard Analysis form (Attachment B) to identify the work process, list the steps used in performing the process, identify the possible hazards within each of those steps, and then develop an action plan for the correction of any hazards, prioritizing the list with the most critical items first.

Job hazard analyses will be updated at the following times:

- When injuries and illnesses occur, that may warrant a review.
- When new substances, processes, procedures, or equipment are introduced into the workplace that may be hazardous.
- When new or previously unidentified hazards are recognized.
- When employees provide feedback/suggestions that will lead to safety improvements.

Personal Protective Equipment, Tools, and Hazard Communications

All personal protective equipment (PPE) and tools to safely perform the work will be provided to employees and maintained correctly in accordance with manufacturer guidelines.

All employees will be trained on the personal protective equipment that is required to do their jobs effectively. TMC will review any employee feedback on the use of this equipment and potential improvements that can be made.

Copies of the TMC's Hazard Communication Program and other information will be kept on file in the respective departments for employees to review any time. The SDS/chemical "right-to-know locations" are located here: **front office, employee breakroom, and all working areas.**

Section 5: Hazard Prevention and Control

Regular inspections and surveys, along with employee reports/feedback, allow us to keep hazard information current. With hazards continuously identified, they can be controlled or prevented using the following standard methods:

- **Safe Work Practices.** Implementation of special workplace rules may be necessary to continue to protect employees from hazards. Such special rules include specific procedures regarding the use of potentially hazardous equipment or materials, identification of safe acts or behaviors, lockout/tag-out procedures, requirements for personal protective devices, and good housekeeping practices. The supervisor or safety representative will make sure that these special safety and health rules are written, posted, and discussed with affected employees.
- **Engineering Controls.** The company strives to ensure the work environment and the job itself are designed to **eliminate or reduce** employee exposure to hazards. This can be done by completely removing the hazard from facilities, equipment, or processes through design whenever possible. When hazards cannot be eliminated or replaced with less-hazardous alternatives, they may be enclosed. For example, moving parts of machinery or heat-producing processes may be enclosed with special materials. Finally, if hazards cannot be removed or enclosed, barriers will be put between employees and the hazards in the form of machine guards, ventilation hoods, or isolation of a process. These engineering controls will be regularly reviewed with affected employees.
- **Training.** Employees are taught to identify and avoid hazards during orientation as well as ongoing safety training based on their position within the company and any potential hazards they may encounter during the course of their job. Managers and safety representatives will highlight safe work procedures and recognizing employees or groups of employees through our “catch me at my best” program, which demonstrates and enforces positive safety behaviors. Examples of these types of best safety practices include rewards for employees who are lifting properly, wearing the proper safety equipment, or making suggestions that are implemented and/or improve safety.
- **Enforcement.** Safe work practices are a condition of employment, and any violation of workplace safety and health rules will be cause for corrective action, discipline, or termination of employment based on the seriousness of the violation. Enforcement will be based on letting employees know what is expected of them regarding workplace safety and health and giving them a chance to correct their own behavior.
- **Personal Protective Equipment.** Engineering controls and safe work practices may not completely eliminate hazards. Personal protective equipment — such as face shields, steel-toed boots, safety glasses, or hardhats — may be required, and will be provided at no cost to the employees. Employees will be trained in the need for, and proper use of such equipment and the limitations of this equipment will be made clear to all employees.
- **Administrative Controls.** Administrative controls such as lengthened rest breaks, additional relief workers, exercise breaks to various body motions, and rotation of workers through different jobs to reduce exposure to hazards may also be employed to help with the continuing control of hazards. Administrative controls should be used in conjunction with other controls that work to eliminate hazards and control exposure more directly.
- **Preventive Maintenance.** Preventive maintenance is designed to eliminate possible equipment problems. It plays a significant role in ensuring that hazard controls continue to function effectively and that equipment malfunctions do not cause additional hazards. Our preventive maintenance is continuous and performed in accordance with the manufacturer’s recommendations. Records of all maintenance performed will be maintained by the appropriate designated safety personnel in their respective departments and kept on file in **(list location)**, either by a computerized system or by dating the posted work schedule.

Section 6: Communication

Communication on safety issues is vital for the success of the WSMP. The following is a list of way that TMC will communicate safety issues with employees:

- Review of the safety program during onboarding orientation.
- Training topics covered in standup meetings.
- Signage and distributed content for compliance with all applicable state and federal regulations
- Safety meetings are held at least every month. The meetings may take place at different intervals if the occurrence of injuries and/or illnesses prompts immediate action.
- Safety meetings will be held before offsite work to review established procedures.

TMC has instituted a procedure to communicate any hazards or safety issues anonymously and without the fear of reprisal. In addition to communicating safety concerns with Management or Safety Champion directly, employees may submit their concerns through the Safety Suggestion box located in the employee breakroom.

Section 7: Training and Education Programs

Initial and ongoing safety training and education are necessary to ensure the safety of our employees. Our safety orientation is the backbone of our program and introduces new employees to our culture and commitment to safety. Ongoing training will also be conducted based on the employee department/position and any requirements, such as personal protective equipment, and controls.

The purpose of our training program is to provide employees with:

- Knowledge and skills needed to perform their work safely and avoid creating hazards that could place themselves or others at risk.
- Provide awareness and understanding of workplace hazards and how to identify, report, and control them.
- Specialized training, when their work involves unique hazards.

Safety training will be provided for employees:

- During new hire onboarding.
- When beginning new job assignments.
- When cross-training on new types of machinery/equipment.
- When new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard.
- Periodically, in the form of refresher training (this may be following a near miss or incident, which can be required).

Depending upon the topic, the training may be conducted with one of the following methods:

- Peer to peer training/shadowing.
- Coaching/counseling.
- Worksite demonstrations
- Safety observations/evaluations.

Section 8: Program Evaluation and Improvement

The main goal of our safety program evaluation is to ensure that TMC is providing a safe workplace to meet and exceed our safety goals while continuously improving our safety culture. We will review the safety program or individual programs annually, with those goals in mind, and remain compliant with all applicable regulations/laws.

The evaluation may also:

- Verify that the core elements of the program have been fully implemented.
- Involve employees in some aspects of program evaluation, including reviewing information, establishing and tracking performance indicators, and identifying opportunities to improve the program.
- Ensure that the following key processes are in place and operating as intended:
    - Reporting injuries, illnesses, incidents, hazards, and concerns.
    - Conducting workplace inspections and incident investigations.
    - Tracking progress in controlling identified hazards and ensuring that hazard control measures remain active and are completed promptly.
    - Collecting and reporting any data needed to monitor progress and performance.
- Review the results of any compliance audits to confirm that any program shortcomings are being identified and that actions are being taken that will prevent a recurrence.

The person tasked with the overall responsibility to evaluate TMC's safety program and processes is:

Name: [redacted]

Contact Information: [redacted]

Section 9: Recordkeeping

TMC is responsible for maintaining records of all applicable safety-related programs. The records will be kept on file at **2643 Mossrock** by **Kayla Bilderback**

The OSHA Form 300 log of work-related injuries and illnesses (Appendix C) will be posted annually in the areas where other notices are posted from February 1 through April 30.

Based on OSHA general industry standards, records for the following areas will be created, retained, and produced to the OSHA compliance officer during an inspection.

Lockout/Tagout Logs: Certify that periodic inspections have been performed at least annually. Logs shall be retained, and employee training records will be kept for the entire duration of employment and five years after that.

Personal Protective Equipment (PPE): Written certifications of hazard assessments and employee training. Records of employee training will be kept for the duration of employment for all employees exposed to identified hazards and for five years after that.

Hazard Communication: SDSs for each of the hazardous chemicals in the workplace for employees working with the chemicals will be kept for the duration of employment plus 30 years for all employees exposed to the applicable chemicals. Records on employee training on chemical hazards for each employee's duration of employment and five years after that.

OSHA Form 300, 300A, and 301 Reports: The OSHA Form 300 log of work-related injuries, illnesses and fatalities, the OSHA Form 300A summary of work-related injuries and illnesses, and the Form 301 injury and illness incident reports will be maintained by the Safety Champion and will be retained on file for five years following the year the records cover.

Employee Acknowledgement Form

WORKPLACE SAFETY MANAGEMENT PROGRAM (WSMP) RESPONSIBILITIES: I have received and read the Tighten Manufacturing Company's safety rules and understand that I must abide by these rules at all times. I have been given a copy of these safety rules and instructed to refer to them regularly. Whenever I see an unsafe work condition, I must report it immediately to my supervisor, safety committee representative, or management.

REPORTING ACCIDENTS AND UNSAFE CONDITIONS: I have been informed and fully understand that it is my responsibility to report all work-related incidents of injuries or accidents, both my own and other employee incidents, at the time of the incident. I also understand that it is my responsibility to notify my supervisor, safety committee representative, or management of any unsafe working conditions immediately so that the potential hazards can be assessed and corrected.

Employee Signature: _____

Printed Name: _____ Date: _____

Attachment A: Employee's Report of Injury Form

Instructions: Employees shall use this form to report all work-related injuries, illnesses, or "near miss" events (which could have caused an injury or illness) – *no matter how minor*. This helps us to identify and correct hazards before they cause serious injuries. This form shall be completed by employees as soon as possible and given to a supervisor for further action.

I am reporting a work related: ( )Injury ( ) illness ( ) Near miss	
Your Name:	
Job title:	
Supervisor:	
Have you told your supervisor about this injury/near miss? ( ) Yes ( ) No	
Date of injury/near miss:	Time of injury/near miss:
Names of witnesses (if any):	
Where, exactly, did it happen?	
What were you doing at the time?	
Describe step by step what led up to the injury/near miss. (continue on the back if necessary):	
What could have been done to prevent this injury/near miss?	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? ( ) Yes ( ) No	
If yes, whom did you see?	Doctor's phone number:
Date:	Time:
Has this part of your body been injured before? ( ) Yes ( ) No	
If yes, when?	Supervisor:
Your signature:	Date:

Attachment B: Supervisor's Incident Investigation Form

Name of Injured Person _____

Date of Birth _____ Telephone Number _____

Address _____

City _____ State_____ Zip _____

(Circle one) Male Female

What part of the body was injured? Describe in detail. _____

_____

What was the nature of the injury? Describe in detail. _____

_____

_____

Describe fully how the accident happened? What was employee doing prior to the event? What equipment, tools being using? _____

_____

_____

Names of all witnesses:

_____ _____

_____ _____

Date of Event _____ Time of Event _____

Exact location of event: _____

What caused the event? _____

_____

_____

Were safety regulations in place and used? If not, what was wrong? _____

_____

Employee went to doctor/hospital? Doctor's Name _____

Hospital Name _____

Recommended preventive action to take in the future to prevent reoccurrence.

_____

_____

_____ _____ _____

Supervisor Signature Supervisor Name (Print) Date

Attachment C: Incident Investigation Report

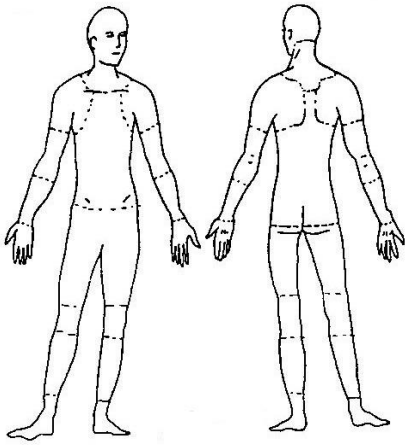
Instructions: Complete this form as soon as possible after an incident that results in serious injury or illness.
(Optional: Use to investigate a minor injury or near-miss that *could have resulted in a serious injury or illness*.)

This is a report of a: ( ) Death ( ) Lost Time ( ) Dr. Visit Only ( ) First Aid Only ( ) Near Miss	
Date of incident:	This report is made by: ( ) Employee ( ) Supervisor ( ) Team ( ) Other_____

Step 1: Injured employee (complete this part for each injured employee)

Name:	Sex: ( ) Male ( ) Female	Age:
Department:	Job title at the time of incident:	

Part of body affected: (shade all that apply)



Nature of injury: (most serious one)
( ) Abrasion, scrapes
( ) Amputation
( ) Broken bone
( ) Bruise
( ) Burn (heat)
( ) Burn (chemical)
( ) Concussion (to the head)
( ) Crushing Injury
( ) Cut, laceration, puncture
( ) Hernia
( ) Illness
( ) Sprain, strain
( ) Damage to a body system:
( ) Other _____

This employee works:
( ) Regular full time
( ) Regular part time
( ) Seasonal
( ) Temporary

Months with this employer

Months doing this job:

Step 2: Describe the incident

The exact location of the incident:	Exact time:
What part of the employee's workday? ( ) Entering or leaving work ( ) Doing normal work activities ( ) During meal period ( ) During break ( ) Working overtime ( ) Other_____	
Names of witnesses (if any):	

Number of attachments:	Written witness statements:	Photographs:	Maps/drawings:

What personal protective equipment was being used (if any)?

Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials, and other important details.

Description continued on attached sheets: ( )

Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply)
( ) Inadequate guard
( ) Unguarded hazard
( ) Safety device is defective
( ) Tool or equipment defective
( ) Workstation layout is hazardous
( ) Unsafe lighting
( ) Unsafe ventilation
( ) Lack of needed personal protective equipment
( ) Lack of appropriate equipment / tools
( ) Unsafe clothing
( ) No training or insufficient training
( ) Other: _____

Unsafe acts by people: (Check all that apply)
( ) Operating without permission
( ) Operating at an unsafe speed
( ) Servicing equipment that has power to it
( ) Making a safety device inoperative
( ) Using defective equipment
( ) Using equipment in an unapproved way
( ) Unsafe lifting
( ) Taking an unsafe position or posture
( ) Distraction, teasing, horseplay
( ) Failure to wear personal protective equipment
( ) Failure to use the available equipment / tools
( ) Other: _____

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as "the job can be done more quickly," or "the product is less likely to be damaged") that may have encouraged the unsafe conditions or acts? ( ) Yes ( ) No If yes, describe:

Were the unsafe acts or conditions reported prior to the incident?	( ) Yes ( ) No
Have there been similar incidents or near misses prior to this one?	( ) Yes ( ) No

Step 4: How can future incidents be prevented?
What changes do you suggest to prevent this incident/near miss from happening again? ( ) Stop this activity ( ) Guard the hazard ( ) Train the employee(s) ( ) Train the supervisor(s) ( ) Redesign task steps ( ) Redesign work station ( ) Write a new policy/rule ( ) Enforce existing policy ( ) Routinely inspect for the hazard ( ) Personal Protective Equipment ( ) Other: _____
What should be (or has been) done to carry out the suggestion(s) checked above? Description continued on attached sheets:

Step 5: Who completed and reviewed this form? (Please Print)	
Written by: Department:	Title: Date:
Names of investigation team members:	
Reviewed by:	Title: Date:

Attachment D: Job Hazard Analysis Form

Job Location:		**Analyst (Last, First):**		**Date of Evaluations:**
Task Description:				
Steps to perform the job/work process	**Description of the hazards in each step**	**Action plan for hazard control**	**Degree of importance (Low, Med, High)**	**Other comments**
Step 1				
Step 2				
Step 3				
Step 4				
Step 5				

TIGHTEN MANUFACTURING COMPANY

HAZARD COMMUNICATION PLAN

Effective 1 August 2020

Section 1: Management Commitment to Safety and Health

Tighten Manufacturing Company (TMC) strives to have the safest possible place of employment for our employees. The enclosed Hazard Communication Plan was created to help prevent accidents and to ensure the health and safety of our employees. TMC and its employees will comply will all federal and state health and safety rules. Under this program, employees are informed of the contents of the OSHA Hazard Communications Standard, the hazardous properties of chemicals with which they work, safe handling procedures, and measures to take to protect themselves from these chemicals. These chemicals may be physical or health-related. This written hazard communication plan is available at the following location for review by all employees.

Section 2: Identifying Hazardous Chemicals

Detailed information about the physical, health, and other hazards of each chemical is included in a Safety Data Sheet (SDS); the product identifier for each chemical on the list matches and can be easily cross-referenced with the product identifier on its label and its Safety Data Sheet.

Identifying Containers of Hazardous Chemicals

All hazardous chemical containers used at this workplace will either have the original manufacturer's label --that includes a product identifier, an appropriate signal word, hazard statement(s), pictogram(s), precautionary statement(s) and the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party OR workplace labeling that includes the product identifier and words, pictures, symbols, or combination that provide at least general information regarding the hazards of the chemicals

The Section Manager for each working area will ensure that all containers are appropriately labeled. No container will be released for use until this information is verified. Workplace labels must be legible and in English. Information in Spanish is available on TMC's computer network or can be requested from the Section Manager.

Small quantities intended for immediate use may be placed in a container without a label, provided that the individual always keeps it in their possession, and the product is used up during the work shift or properly disposed of at the end of the workday. However, the container should be marked with its contents.

Keeping Safety Data Sheets (previously known as Material Safety Data Sheets)

Safety Data Sheets are readily available to all employees during their work shifts. Employees can review Safety Data Sheets for all hazardous chemicals used at this workplace. All SDSs are in labeled binders next to the timekeeping station located in each working area.

The Safety Data Sheets are updated and managed by the Section Manager and the Safety Champion to ensure information is up to date at all locations. If a Safety Data Sheet is not immediately available for a hazardous chemical, employees can obtain the required information by calling the Section Manager or Safety Champion.

Training employees about chemical hazards

Before they start their jobs or are exposed to new hazardous chemicals, employees must attend a hazard communication training that covers the following topics:

- An overview of the requirements in Texas OSHA's hazard communication rules.
- Hazardous chemicals present in their workplace.
- Any operations in their work area where hazardous chemicals are used.
- The location of the written hazard communication plan and where it may be reviewed.
- How to understand and use the information on labels and in Safety Data Sheets.
- Physical and health hazards of the chemicals in their work areas.
- Methods used to detect the presence or release of hazardous chemicals in the work area.
- Steps we have taken to prevent or reduce exposure to these chemicals.
- How employees can protect themselves from exposure to these hazardous chemicals through the use of engineering controls/work practices and personal protective equipment.
- An explanation of any special labeling present in the workplace.
- Emergency procedures to follow if an employee is exposed to these chemicals. Safety Champion is responsible for ensuring that employees receive this training.

After attending the training, employees will sign a form (see attached Employee Acknowledgement Form) verifying that they understand the above topics and how the topics are related to our hazard communication plan.

Before introducing a new chemical hazard into any department, each employee in that department will be given information and training as outlined above for the new chemical hazard.

Informing employees who do special tasks

Before employees perform special (non-routine) tasks that may expose them to hazardous chemicals, their supervisors will inform them about the chemicals' hazards. Their supervisors also will inform them about how to control exposure and what to do in an emergency. TMC will evaluate the hazards of these tasks and provide appropriate controls, including Personal Protective Equipment (PPE), all additional training as required.

Employee Acknowledgement Form

WORKPLACE HAZARD-COMMUNICATION TRAINING I have been informed about the hazardous chemicals that I may be exposed to during my work, and I have received training on the following topics:

- An overview of the requirements in Texas OSHA's hazard communication rules.
- Hazardous chemicals present in the workplace.
- The written hazard-communication plan.
- Physical and health effects of hazardous chemicals.
- Methods to determine the presence or release of hazardous chemicals in the work area.
- How to reduce or prevent exposure to these hazardous chemicals through the use of exposure controls/work practices and personal protective equipment.
- Steps we have taken to reduce or prevent exposure to these chemicals.
- Emergency procedures to follow if exposed to these chemicals.
- How to read labels and review safety data sheets.

Employee Signature: _____

Printed Name: _____ Date: _____